

# The Sinclair QL

Sinclair

F1 8 1 2 3 4 5 6 7 8 9 0 - = £ \

F2 ALT Q W E R T Y U I O P [ ]

F3 CRPS A S D F G H J K L ; " ENT

F4 SHIFT Z X C V B N M , . / SHIFT QL

F5 CTRL + + ↑ ↓ ALT

```
100 REMark +-----+
110 REMark +      QL draw routine      +
120 REMark +      APR 18, 1988      +
130 REMark +      by Bob Schubel      +
135 REMark +      CIS 71320, 262      +
140 REMark +-----+
150 :
160 DATA '-','=',CHR$(96),CHR$(92)
170 DATA 'Q','W','E','R','T','Y','U','I','O','P',CHR$(91),CHR$(93)
180 DATA 'A','S','D','F','G','H','J','K','L',';',''
190 DATA 'Z','X','C','V','B','N','M','','','/'
200 :
210 WINDOW 512,256,0,0:PAPER 2:CLS
220 CSIZE 3,1:STRIP 0:INK 7,2
230 AT 3,4:PRINT' The Sinclair ';;ql:PRINT ' '
240 OVER 1:UNDER 1:INK 4
250 AT 3,5:PRINT FILLS(' ',15)
260 PAPER 0:INK 7:OVER 0:UNDER 0
270 SCALE 400,0,0:INK 7:CSIZE 0,0
280 REMark draw ql_at 0,240
290 outline 0,240
300 AT 11,4:PRINT'Sinclair'
310 AT 16,74:PRINT'QL'
320 CURSOR 26,123:PRINT'F1'
330 CURSOR 56,123:PRINT CHR$(127)
340 CURSOR 26,135:PRINT'F2'
350 CURSOR 57,135:PRINT'ALT'
360 CURSOR 26,147:PRINT'F3'
370 CURSOR 53,147:PRINT'CAPS'
380 CURSOR 304,147:PRINT'ENT'
390 CURSOR 26,160:PRINT'F4'
400 CURSOR 56,160:PRINT'SHIFT'
410 CURSOR 293,160:PRINT'SHIFT'
420 CURSOR 26,172:PRINT'F5'
430 CURSOR 53,172:PRINT'CTRL'
440 CURSOR 302,172:PRINT'ALT'
450 b=75:C=123
460 FOR I=1 TO 9,0
470 CURSOR b,C:PRINT I
480 b=b+19.2
490 END FOR I
500 b=269:RESTORE
510 FOR I=1 TO 4
520 CURSOR b,C:READ A$:PRINT A$
530 b=b+19.4
540 END FOR I
550 b=84:C=135
560 FOR I=1 TO 12
570 READ A$:CURSOR b,C
580 PRINT A$
590 b=b+19.4
600 END FOR I
610 b=90:C=147
620 FOR I=1 TO 11
```

```
630 CURSOR b,C:READ A$:PRINT A$  
640 b=b+19.4  
650 END FOR I  
660 b=98:C=160  
670 FOR I=1 TO 10  
680 CURSOR b,C:READ A$:PRINT A$  
690 b=b+19.4  
700 END FOR I  
710 CURSOR 89,171:PRINT CHR$(188)  
720 CURSOR 108.6,171:PRINT CHR$(189)  
730 CURSOR 264,172:PRINT CHR$(190)  
740 CURSOR 282,172:PRINT CHR$(191)  
750 PAUSE 60  
760 draw_q1_at 0,240  
770 BLOCK 2,4,21,184,244  
780 BLOCK 2,4,355,184,2  
790 BLOCK 2,4,420,184,2  
800 SCALE 100,0,0:STOP  
810 :  
820 DEFIne PROCedure draw_q1_at(x_pix,y_pix)  
830 LOCal h_lines,KEYSs  
840 FOR h_lines=0 TO 6  
850 LINE_R TO 475,0  
860 IF h_lines<6:POINT_R -475,-19  
870 END FOR h_lines  
880 LINE_R TO -22,0 TO 0,114 TO 22,0 TO 0,-114 TO -453,0  
890 LINE_R TO 0,95 TO 20,0 TO 0,-95  
900 LINE_R TO 6,0 TO 0,95 TO 19,0 TO 0,-19 TO 9.5,0 TO 0,-19 TO 5,0  
910 LINE_R TO 0,-19 TO 9.5,0 TO 0,-19 TO -9.5,0 TO 0,-19 TO 19,0 TO 0,19  
920 LINE_R TO 19,0 TO 0,-19 TO 133,0 TO 0,19 TO 19,0 TO 0,-19 TO 19,0  
930 LINE_R TO 0,19 TO -9.5,0 TO 0,19 TO 9.5,0 TO 0,19 TO 14,0 TO 0,19 TO 19,0  
940 LINE_R TO 0,-19 TO -18,0:INK 0:LINE_R TO 18,0:INK 7:LINE_R TO 0,-57  
950 LINE_R TO 15,0 TO 0,-11 TO 0,125 TO 0,-19 TO -5.5,0  
960 FOR KEYSs=1 TO 7  
970 LINE_R TO 0,-19 TO -19,0 TO 0,19 TO -19,0  
980 END FOR KEY斯s  
990 LINE_R TO 0,-19 TO 9.5,0  
1000 FOR KEY斯s=1 TO 6  
1010 LINE_R TO 19,0 TO 0,-19 TO 19,0 TO 0,19  
1020 END FOR KEY斯s  
1030 LINE_R TO 0,-19 TO -14,0  
1040 FOR KEY斯s=1 TO 5  
1050 LINE_R TO -19,0 TO 0,-19 TO -19,0 TO 0,19  
1060 END FOR KEY斯s  
1070 LINE_R TO 0,-19 TO 9.5,0  
1080 FOR KEY斯s=1 TO 5  
1090 LINE_R TO 0,-19 TO 19,0 TO 0,19 TO 19,0  
1100 END FOR KEY斯s  
1110 END DEFIne draw_q1_at  
1120 :  
1130 DEFIne PROCedure outline(x_pix,y_pix)  
1140 INK 0:FILL 1  
1150 POINT x_pix,y_pix  
1160 LINE_R TO 465,0 TO 0,-11 TO 10,0 TO 0,-114 TO -10,0 TO 0,-11
```

```

1170 LINE_R TO -465,0 TO 0,136 TO 0,-11
1180 INK 7:FILL 0
1190 POINT x_pix,y_pix
1200 LINE_R TO 465,0 TO 0,-11 TO 10,0 TO 0,-114 TO -10,0 TO 0,-11
1210 LINE_R TO -465,0 TO 0,136 TO 0,-11
1220 END DEFine
1230 DEFine PROCedure ql
1240 INK 7,4:PRINT 'QL':INK 4
1250 END DEFine ql
1250 END DEFine ql

```

1988 Aug 04 15:27:56  
 ram1\_ts88720a\_lis  
 880721.1813;; 251\_WORDS;;  
 (T)imeLinez/SincLink;;  
 (S)hareware\_File;; FILENAME:::  
 ts88720a;;

TS2068 Joystick Quad Drwg. Pgm.  
 (c)1988 by Mark Wahl @  
 LogOn/SV\_BBS(408)745-0880. May  
 be freely copied for  
 non-commercial use. For  
 commercial use, contact author..  
 This program was created in  
 response to Gertie Andersson's  
 880620 request for information  
 on the use of the TS2068  
 Joysticks. It demonstrates the  
 use of the STICK command on the  
 TS2068 by dividing the screen  
 into 4 quadrants and drawing in  
 all four quadrants at the same  
 time. Push the FIRE button to  
 erase..

```

100 REM 880720.1537;; STICK
command demonstration..
110 LET x=10: LET y=10
120 PLOT x,y
130 LET z= STICK (1,1)
140 LET w= STICK (2,1)
150 IF (z=5 OR z=9 OR z=1) AND
y<175 THEN LET y=y+1
160 IF (z=8 OR z=9 OR z=10) AN
D x<255 THEN LET x=x+1
170 IF (z=6 OR z=2 OR z=10) AN
D y>1 THEN LET y=y-1
180 IF (z=6 OR z=4 OR z=5) AND
x>1 THEN LET x=x-1
181 IF w=1 THEN INVERSE 1
182 IF w=0 THEN INVERSE 0
190 PLOT x,y
195 PLOT 256-x,176-y
196 PLOT x,176-y
197 PLOT 256-x,y
200 GO TO 130

```

The Syntax of the STICK command  
is:

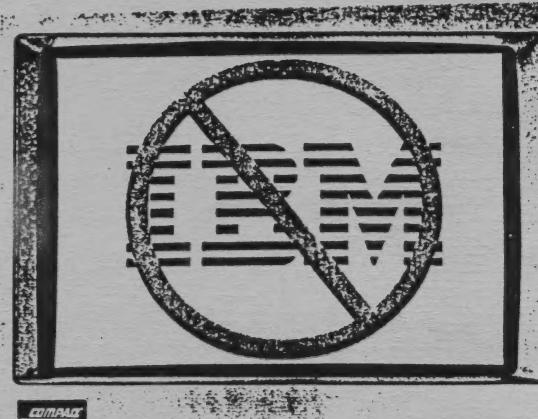
`pos=STICK(dev,player)`

Dev is either 1 for the joystick  
itself, or 2 for the button.

Player is 1 for the left and 2  
for the right joystick port.

Pos is either 0(down) or 1(up)  
for the fire button, or for the  
joystick:

^	5	1	9
<	4	0	8
6	2	10	
v			



APRIL/88

# ZX-APPEAL

VANCOUVER sinclair  
USERS GROUP

PLAYING WITH ELECTRICITY

- Mar 26/88  
- Harvey Taylor

What the hell is a modaptor anyway?

One of my greatest disappointments with the QL when I originally got it was the serial ports. When I discovered I couldn't just hang a garden variety modem off the serial ports, I was po'ed to say the least. I have written in the past about the reasons for these problems, however in brief the serial input for both ports is multiplexed onto one serial input on the 8749 IPC [Intelligent Peripheral Controller] which has to watch the keyboard & make noise & keep time as well. Consequently the serial port has a tendency to drop characters now & then.

Another consequence of this arrangement is that the programmer does not have direct access to the device which controls the serial parameters. ie Data bits [5-8], Stop Bits [1-2], & Parity [none,even,odd,mark,space]. You can ask QDOS to ask the 8749 to change the Parity & Baudrate, however the internal ROM of the 8749 is forever (?) hidden from the programmer. If you're driving a printer, this doesn't much matter. However if you want to get input from a modem in North America, problems arise. One problem is that just about every BBS in the world expects you to use 1 Stop Bit. The QL expects you to use 2 Stop Bits. The Modaptor is a hardware device that gives you two stop bits. It also serves the function of generating a 75 Baud output signal from a 1200 baud output signal. I have not looked at this function because it is only used in the UK with Prestel & those systems which expect the 1200 baud receive/75 baud send protocol.

I have heard of people getting modaptors with the part numbers defaced so that reverse engineering is impossible. For some reason mine came readable. This is the circuit.

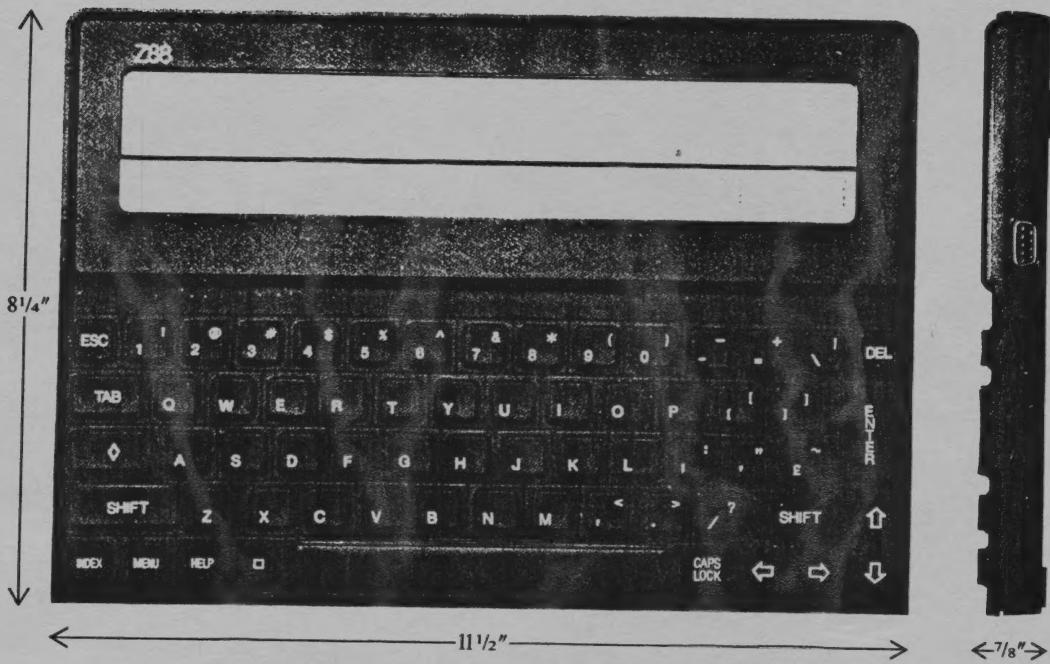
These are the other connections between the QL & the modem

QL [SER23	CONNECTIONS	MODEM [DB-25]
1 - GND		7 - GND
2 - TxD		2 - TD
3 - RxD		3 - RD
4 - nc		
5 - nc		
7 - Tied to QL Pin 1		
9 - +12v		4 - CTS
9 - +12v		20- DTR

Note that the QL User Guide in Concepts [ Communications RS-232C Page 13 ] refers to the British Telephone connectors used in Europe, not the DB9 connectors used in NorthAm. The DB9 pins 6,7,8 are tied to frame ground.

Z 88

## THIS COMPACT.



## THIS POWERFUL...

- The most portable full-function computer ever devised.
- Less than an inch thick, measures 11 1/2 in × 8 1/4 in. Weighs under 2 lb.
- Comes complete with integrated set of powerful applications software: word-processing, spreadsheet, database, calculator, diary, calendar, clock, alarm, printer editor—all included in ROM.
- Can export, import and manipulate data from IBM-compatible PCs; converts its own applications software into Wordstar or Lotus 1-2-3 files.

- Extra memory comes in solid-state, interchangeable packs—only 2 1/5 in square × 3/8 in deep. No fragile disks, no bulky disk drives.
- 32K of RAM built in, expandable to over 1.5 megabytes now, and 3 megabytes soon—enough to hold the complete works of Shakespeare.
- Permanent storage on EPROM (Erasable Programmable Read Only Memory) packs, available in 32K, 128K and 512K. 1 megabyte packs coming soon.
- Latest supertwist liquid crystal display provides large working area of 8 lines × 80 characters.
- RS232 port provides connection to virtually any standard printer.
- QWERTY keyboard has silent, short-travel keys; use in meetings, lectures, anywhere.
- Runs on four AA batteries. Built-in capacitor preserves data when batteries need to be changed.



# THIS CAPABLE!



## Z88 Technical Specification

Design Four-chip design—CPU, ROM, RAM, gate array.

CPU Z80 (CMOS).

ROM 128K containing operating system and applications software together with BASIC/Assembler.

RAM 32K expandable via 32K, 128K, 512K and 1 megabyte to a maximum 3 megabytes, battery-backed from the computer.

EPROM Up to 3 megabytes removable storage capacity via 32K, 128K, 512K and 1 megabyte packs.

Applications software Pipedream word-processing and spreadsheet applications. Database. Calculator, diary, calendar, clock, alarms, printer editor, come as 'pop-down' screens.

Operating system OZ operating software, allows task-switching between applications without loading or exiting.

Language/Assembler Powerful BASIC.

Display 8 × 106 characters 'supertwist' LCD. Includes 8 × 80 working area, page map (shows where you are on a complete page), battery strength, alarm status.

Power 4 AA batteries provide 20 hours active computing or one year on standby.

Ports Three for memory-pack expansion, RS232 for popular printers and data import/export.

# CAMBRIDGE Z88

## Z88 Accessories

**RAM Packs** Require no external power, and are available with 32K, 128K, and 512K capacity. 1 megabyte RAM packs available soon.

**EPROM Packs** Solid-state permanent storage, available in 32K, 128K and 512K. 1 megabyte EPROM packs available soon.

**EPROM Eraser** Z88 EPROM Eraser, completely deletes EPROM data—leaves you with a blank EPROM pack, ready for re-use.

**PCLINK** Consisting of software diskette and RS232 serial cable, allows transfer and receipt of ASCII files between the Z88, and an IBM or compatible PC. Also converts Z88 Pipedream files into either Wordstar or Lotus 1-2-3 files. Links for other PCs available shortly.

**Serial Printer Cable** connects the Z88 to any printer with a standard serial port.

**Parallel Printer Cable** connects the Z88 to any printer with a standard parallel port.

---

AMERICAN MICRO CONNECTION

2175 ABORN ROAD

SUITE 262

SAN JOSE, CA 95121

(408) 278-9730

880726.1740;; 183\_words;; (T)IMELINEZ/SincLink;;  
 (S)hareware File;; Filename:: ts88726a (rscable);;

QL to PC Clone Cable & Software by Mark Wahl & Terry  
 Greenlee..

### RS232 Cable Design

QL			PC Clone
1	Green----- 1 GND	GND <sub>1</sub>	Green 1
2	Red----- 1 TxD	TxD <sub>1</sub>	Red 2
3	Blue----- 1 RxD	RxD <sub>1</sub>	Blue 3
4	Yellow----- 1 DTR	CTS <sub>1</sub>	Yellow 4
5	Orange----- 1 CTS	RTS <sub>1</sub>	Orange 5
6	N.C.		Purple 6
7	Black----- 1 GND		Black 7
8	N.C.	+-----	White 8
9	N.C.	DTR	N.C. 9-19
		-----	Brown 20
			N.C. 21-25

Brown(20), White(8) and Purple(8) are tied together.  
 The rest of the connections are pin to pin.

Connect to SER1 at QL, and to COM1 at IBM.  
 At the QL, enter and run this program:

```
10 BAUD 1200
20 OPEN #4;ser1r
30 PRINT INKEY$(#4);
40 PRINT #4;INKEY$;
50 GOTO 30
```

After the program is running, type on the IBM:

```
MODE COM1: 1200,n,8,1,p
CTTY COM1
```

If a A>,B>,C> or something similar appears on the QL screen, the cable works.

Try typing DIR and Control-M on the QL to get a Directory of the IBM disk drive.

To return control of the IBM, type

CTTY CON

>From squid!david Mon Jun 6 22:33 CDT 1988 remote from occrsh  
Date: Mon, 6 Jun 88 22:33:14 CDT  
Message-ID: <8815722CF2@squid.UUCP>  
Subject: nukes

\*\* NEW Add-Ons for the IBM \*\*

Single board Nuclear Reactor supplies stand-by power for 12 years! Now available on a full-length plug-in card for the IBM, or compatible, the QBX-1 nuclear reactor card provides back-up power for up to 12 years. When the card senses a power failure, explosive charges (bolts) eject moderator and control rods from the reactor interior, within 20msecs, bringing the reactor to it's fully rated output of 20Kw, in less than one (1) millisecond! Over it's 12 year active life, the reactor's power decreases by 25%, to 15Kw. Integral heat fans provide convection cooling of the reactor's 500W power dissipation while the reactor remains in "stand-by" position. If your computer cannot furnish the 400ft per second of forced air for cooling, consider buying the manufacturer's heavy-water cooling jacket and stainless steel pump module, which fits conveniently under a desk, or workbench. Latches on each side of the reactor module let you quickly swap the radioactive core, should you need to replace it. An optional circular viewing port of lead glass lets you view the reactor's internal assemblies, & also functions as a ten (10) million candlepower nightlight.

To protect users from undue radiation, each card contains a shielding kit, comprised of five (5) self-adhesive lead plates, and 20 radiation-monitoring film badges. The lead plates mount to the inside of your computer enclosure, insuring the reduction of harmful gamma rays, which cause soft errors to floppy disks and RAM data. For more protection, consider the manufacturer's 200' extension cords for monitors and keyboards.

Because the card can supply more than enough power for the standard computing station, you can sell the excess power to your utility company, as provided by law. An add-on phasing and metering kit (PMK-1) lets you connect your reactor to the local power grid. Each PMK-1 kit includes standard power sale contracts and Rural Electrification Board rules & regulations.

Although not required everywhere, each reactor includes a standard 23-volume site evacuation plan. The plan includes forms, to allow you to register the name and address of your reactor site with the Nuclear Regulatory Commission. As an option, the seller supplies the plan on MS-DOS compatible diskettes, in Wordstar format. User-friendly templates let you type in the data allowing your word processor to create a complete, printed document.

Reactor prices start at twelve (12) million dollars (US). Please allow six (6) years for delivery. (Prices do NOT reflect union considerations, or include cost over-runs.)

Please mail your cashier's check, or money order, with payment in full, to: Nukes R Us, P.O. Box U-235, White Sands, NM 43210

(shamelessly stolen from the TECH echo)

--- Sirius 0.50

\* Origin: Best of both worlds: ihsnp4!occrsh!squid!david aka (1:19/1)

## SUBSCRIPTION DUES DUE!!

The folks listed on this page dues expire(d) during the month indicated. This is your last issue! Please pay your dues! Make check for \$15 Annual Subscription payable to: **'~~SinLink~~'** and mail to::

TIMELINEZ/ Sinclink  
c/o

SEE BACK

4530

NAME::	Dues Expr Date
--------	----------------------

TSEBZUG (1)::

Darwin Thompson 8807

TSPUG (9)::

Frank Binch	8808
Capt. Charles Byler	8808
Roger Gephardt	8808
Dennis Krill	8808
Bob Orrfelt	8808
Stuart Ree	8808
Howard Sheppard	8808
Loren Latker	8807
Bill Strick	8807

GUTS/SV (7)::

Mel Richardson	8808
Dave Means	8808
Jim Wheeler	8808
Troy Cook	8808
Courtney Cain	8807
Keith Felix	8807
Maynard Unruh	8807

1988 Aug 09 12:57:02  
flpl ts8808.lis  
880809.1251;; 1026 WORDS;;  
(7)IMELINEZ/ (S)inLink;;  
Filename:: ts8808 (ts8808);;  
Descriptions:: (2)

PAGE 359::  
TIMELINEZ/ Sinclink; VOLUME 6;;  
Numbers:: 7, 8;; Jul, Aug,  
1988..

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program listings::

\* TS2068 by George Mockridge..  
\* DL by Mark Wahl..

\* TS1000 by Mike Furman..

3??, DL 'Linked Lists' Article  
and Program Listing by Tim  
Swenson..

3??, DL 'Vector Based  
Characters' Article and Program  
Listing by Tim Swenson..

3??, The Newsletter Exchange  
Page by George Mockridge..

3??, TIMELINEZ/ Sinclink  
Shareware File Index by Bill  
Miller and Mark Wahl..

3??, Sinclink Information  
Exchange Contacts 8806-7 by  
Bill Miller..

3??, DL to PC Clone Cable and  
Software by Mark Wahl & Terry  
Greenlee..

3??, TS2068 Joystick Quad  
Drawing Program by Mark Wahl..

3??, TS2068 & DL For Sale by  
Bill Strick;; (415)522-3811..

3??, 'Use 300 BAUD MODEM as 1200  
BAUD' by Kevin Leung..

378, TIMELINEZ/ Sinclink  
Information..

(408)244-6707..  
We are working on TS2068,  
Spectrum and TS1000 disk  
systems. We are also working on  
other popular disk systems (PC  
Clone, C64/128). If you are  
interested in these, contact:  
TIMELINEZ/ Sinclink..  
c/o Bill Miller, (408)253-3175..  
6675 Clifford Drive.,  
Cupertino, CA 95014-4530..

# TIMELINEZ

SINCLINK

375

1988 Aug 08 15:54:24  
flpl\_sc8806t7\_lis

880808.1432;; 371 Lines;;  
(S)LIX;; (C)contacts;;  
Filename: sc8806a7 (sf88) (2  
Pages);;

#### SLIX Contacts 8807 (18)::

\* 880730/TCW UG\_TS SIG meeting at Stanford..

Dick Delp gave a presentation on 'Arbitrary Precision Arithmetic' and distributed an MS-DOS 360K disk (msdisk3.lis, 65 files) containing the C Source Code for a program (MIRACL) to work with Arbitrary Precision Arithmetic..

\* 880728.1430-.1444/Call from Randy Baker;; (415)594-0115.. Randy is looking for a 'consultant' to help him with some TS1000 and Apple 'Laserwriter/ Postscript' projects..

We suggested posting a 'help wanted' notice on the LogOn BBS's..

We also suggested contacting Mark Wahl (Laserwriter/ Postscript) and Mike Furman (TS1000) via the LogOn Sunnyvale BBS at (408)745-0880..

Randy reports he got some response to his previous requests for help in TIMELINEZ/SinLink. He also promised to send the TS1000 XMDDEM terminal program instructions and a description of his TS1000 and Laserwriter projects..

\* 880727/GUTS/SV meeting, attendees (10):: Joel Fitch,, Stanley Rosner;; (201)679-2321;; 5 Every St., Old Bridge; NJ;; 08857, Bill Miller,, Mark Wahl,, Carl Rink,, Mike Furman and his Dad, Jeff,, Terry Greenlee,, Don Elliott,, and Steve Nichols.. Stanley was visiting friends in the area and learned about our meeting from the San Jose Mercury News. He has a TS1000, TS206B, and a QL with 5.25in 720K Drives and 640K RAM.. Joel Fitch had the keyboard fail on his TS1000. We were able to provide him with a TS1000 Schematic from the TIMELINEZ Notebook..

Terry Greenlee demoed a 'DanCad' 'Boblet' on his Toshiba 1100+. He is trying to make it as fast as the one in 'View-3D'..

Carl Rink reported on his trip to Europe where he saw mostly 'Amstrad' Computers in shops for sale..

Don Elliott still hasn't received his Amstrad portable back that he sent back under warrantee for repair..

Steve Nichols reported on the C64/128 Compiler he is writing..

Mike and Mark weren't able to transfer files between the

Griffin;; (415)494-0466;; 'Lab 40' Function Modules (for PC or Apple II);;  
\*\*\* Signal Acquisition..  
\*\*\* Four Axis Stepper Driver..  
\*\*\* Smart Two Axis Motor Controller..  
\*\*\* Automated Milling Machine..  
\*\*\* Automation Software.. Available from: Computer Continuum;; (415)755-1979; BBS (415)755-1524 Evenings & Weekends;; 75 Southgate Avenue, Suite 6;; Daly City;; CA;; 94015..

\* 880705/Package from Time Designs Magazine;; (503)824-2658;; Contains(25):: \*\* NOTICE OF TIMEX SINCLAIR NORTHWEST MINI-FAIR 880806-7, for information contact::

\*\*\* Cosmopolitan Hotel (reservations);; (503)235-8433.. \*\*\* Rod Gowan;; (503)655-7484 Mon.- Sat. after 12:00 Noon.. \*\*\* BBS (503)656-8072, B1,N.. \*\*\* Tim Woods;; (503)824-2658..

\* 880702/TCW\_UG\_TS\_SIG Meeting..

\* 880702/Letter from Brian Boatright;; (ACD)TEL-NUMB?;; 504 Eley Road;; Eglin AFB;; FL;; 32542..

Brian found out about us from Computer Shopper. He says he recently purchased a TS1000 and is interested in information about the TS1000 our User Group might have..

Brian:: First of all, we must apologize for taking so long to answer your letter. As you can see from the attached TIMELINEZ/SinLink 8801-6, quite a few folks are still interested in the TS1000. Most of the TS1000 information seems to be in TIMELINEZ/SinLink issues from 1982 to 1986. These are available for \$1 each. You may wish to order some of them. The 8412 issue has an index to the 8307 to 8411 newsletters. You may wish to order it first. We look forward to having you as a member!!!..

880719.0831;; sc8807;; END..

880705.0928;; 3744 WORDS;; (S)LIX;; (C)contacts;; Filename: sc8806 (ta88527a) (858 Lines);;

#### SLIX Contacts 8806 (30)::

\* 880630/Postcard from Joan Kealy..

Joan says she is 'hitting the road' on 880630. She has cousins in Santa Rosa, so will be passing thru our area. She plans to stop and try to attend our meeting(s). She says she has never been to a TS User Group Meeting. We hope she

408-745-0880..

Bob Orrfelt demonstrated the FDD-3000 he got to complete his documentation of the TS206B Timex Portugal/ Zebra Disk System..

Terry Greenlee and Mark Wahl demonstrated redirecting the I/O of an MS-DOS machine (Osborne 3) to the Serial Port of a QL to use the QL Display instead of the Osborne LCD (an \$89 RGB adapter for MS-DOS).. \* 880628/Catalog Sheet, CDK-52, Controller Design Kit ...\$259;; The Clavtronic Corp.;; Overton Clayborne;; 707-554-9903;; Chief Cook & Bottle Washer;; P.O. Box 7293;; Vallejo;; CA;; 94590;; USA..

\* 880628.1202/Note to Tim Swenson..

Tim: We don't have any dues record for you. If you could afford to pay dues, it would help the group. If you can't, don't worry about it, the articles you contributed will probably mean you will get many future issues of TIMELINEZ/SinLink on an exchange basis. Thanks for the articles! Keep them coming! Would it be useful for us to try to send the newsletter to you as a QUILL file on QL Microdrive Cartridge which you could send back with articles (in addition to the paper newsletter)?..

\* 880627/Catalog sheet from A+ Computer Response;; 603-847-3373.. QL System ...\$89..

\* 880627/GNU's Bulletin 8806, From Mark Wahl From USENIX;; Free Software Foundation;; c/o ??; b17-876-3296, Internet?;; gnu@prep.ai.mit.edu;; -; 675 Massachusetts Avenue;; Cambridge;; MA;; 02139;; USA.. Page: 2. GNU's Who..

3. What is the Free Software Foundation?.. 4. What is Copyleft?.. 4. Open Software Foundation.. 5. GNU's Flashes 880611.. 6. GNU Wish List.. 7. Special Report: Apple's New Look and Feel.. 8. GNU in Japan.. 9. GNU Project Status Report.. 14. How To Get GNU Software.. 15. GNU Software Available Now.. 18. Thank GNUs.. 19. GNU Order Form..

\* 880625/The Computer Workshop Timex Sinclair SIG meeting at Stanford..

Claus Wiebe demoed an Amiga program to move the Amiga Operating System (called Workbench) to a RAM Disk..

Subscriptions are \$15 U.S. funds. Please make checks or money orders out to: SinLink; and mail to: TIMELINEZ/SinLink; 6675 Clifford Drive;; Cupertino;; CA;; 95014-4530..

Thanks for your interest, hope we can add you to our information exchange!!..

\* 880617.1245/Call from Tom Santos;; 408-943-6870;; 404 E. Plumeria Dr.;; San Jose;; CA;; 95134..

Tom found out about us from Computer Currents. He works at Radius and inquired about the Cambridge Computer Z88. He already has a portable Mac, Toshiba 1100+, and Tandy 100 (he's a portable computer person). He is looking for a U.S. source for the Z88. We suggested Sharp's at 804-746-1664..

Tom: Hope you can attend one of our meetings as described in the attached TIMELINEZ/SinLink 8801-6. I have also attached a copy of a Z88 review from Computer Currents 880517-30 page 31..

\* 880616/Visit by Andy Hradesky..

Andy delivered several items for TIMELINEZ/SinLink records, including a postcard from Joan Kealy reporting she is storing most of her computer gear and 'hitting the road' in a travel trailer and plans to attend the upcoming TS Fests::

\* 880806-7;; Portland, OR; Cosmopolitan Hotel;; Contact:: RNC Enterprises, 503-655-7484..

\* 880826-27;; Lakewood, OH; 'Beck Center for the Arts';; Contact: James B. DuPuy, 216-661-4105..

Joan: Hope the attached TS8801-6 gets to you before you leave. Hope you have time to spend a few days at 6675 Clifford Drive. We have attached a map. Good luck in your travels!!!..

\* 880615/TSERZUG meeting, attendees (7):: Warren Tucker, Bill Miller, Mark Wahl, Fred James, Alvin Lam, John Ezike, Kevin Zimmerman..

Thanks to Warren Tucker for renewing his subscription and for his additional \$5 donation. Warren also returned TS206B DATAFILE to the software library (he couldn't get it to load). He would also like information on how to 'MD-40' his QL keyboard..

\* 880611/TCW UG;; Carl Linden reports on 'Prodigy', an information service which is a joint venture of IBM & Sears, available for IBM PC, IBM compatibles, or Apple II.. Free for 3 months as an introduction. Call 800-759-8000

FROM THE MARCH '88 QZX  
N/L IN NEW MEXICO.

#### BITS AND BYTES

115 Here is a note about the Z80 CPU used in the T/S 1000. The original Z80 had 8 pull-up resistors, R38 - R42 going to pins 7,8,9,10,12,13,14,15. All were 10K. Someone thought it needed them. But the Z80A and Z80B do not and they can cause trouble. The suggestion is to get rid of them. The Zilog manual makes no mention of any being required.

116 A tip from G4NWB through SARUG in Great Britain was written for the Spectrum but will probably apply to the T/S 2068 too. While transmitting RRTY on a TS430 it was noticed that the mic gain control was getting very hot. It turned out that there is an intergrated mic amplifier immediately after the gain control and it was getting cooked. The problem was solved by inserting a 2.7 K ohm resistor in the live side of the input lead from the Spectrum and 50 ohms in the ground connection. That is, both resistors in the lead from the Spectrum mic socket to the mic input plug on the rig. The output from the Spectrum can peak to 3 volts although the rig is only expecting a few millivolts at the microphone input. Other rigs may have similar circuitry so it might be well for users to look at their circuit diagram before transmitting. These remarks probably apply equally to CW or SSTV too.

117 A bug in the ROM of the T/S 2068 causes the INTEGER function for (-65536) to give the incorrect result of -1. For other cases where the result should be -65536, it gives -1E-38. Because the bug is in the ROM, there is no correction.

118 Monitor tips for the QL. The NEC Multisync works well and has magnificent color (also very expensive). The MGA Mitsubishi TV/RGB monitor works without any sync problems. It does have overscan on the F1 mode but works ok on the F2 (TV) mode.

119 The break key on the T/S 2068 does not always work when a program goes up. Sometimes, if you put any audio into the cassette port and then hit the break key, the K cursor will appear.

FROM THE FEB. '88 PLCTTER  
N/L OF CLACKAMAS COUNTY.

#### STRINGS

STRING\$ is a BASIC command used by some BASIC languages and is not the same as STR\$. Knowing its meaning is necessary for SINCLAIR BASIC replacement.

STRINg\$ is used to create strings made up of the same character in graphics, as for borders. You define the character and the desired number of repeats.

SINCLAIR BASIC replacement for 10 B\$=STRING\$(32,"-") is :

100 LET T\$="": FOR N= TO 32: LET T\$=T\$+"-": NEXT N: LET B\$=T\$.

FROM THE JAN/FEB '88  
DETROIT AREA T/S N/L.

#### DISK DRIVE TIP

The Zebra & JLD disk drive both use the Western Digital WD 1710 controller chip. This is a great chip but hard to find. It's recommended you get a spare; since this is the brain of your disk drive.

JAMECO sells it for \$11.95

Write: JAMECO  
1355 Shoreway Road  
Belmont, CA 94002

Berkeley, CA 94703  
(415) 843-5507

PRESIDENT: John Ezike  
Co-Editor: John Ezike

EBZUG meets the FOURTH Wednesday of each month at:

WEST BRANCH BERKELEY PUBLIC LIBRARY at the corner of University and San Pablo. Meetings start at 7:30pm. Bring Equipment and power strips.

>>>>UPCOMING MEETINGS<<<<

August 24th, 1988  
September 28th, 1988  
October 26th, 1988



PENINSULA USER GROUP - P.U.G.  
311 Michelle Lane  
Daly City, CA 94015  
(415) 878-1773

PRESIDENT: George Mockridge  
Co-Editor: George Mockridge

PUG meets the third Sunday of each month at:

PENINSULA HOSPITAL  
1783 EL Camino Real  
Burlingame, CA

Meeting starts at 1:00pm on the lower level. Use north entrance. Bring equipment and extension cords if possible.

>>>>UPCOMING MEETINGS<<<<

August 21st, 1988  
September 18th, 1988  
October 16th, 1988



GROUPS USING TIMEX/sinclair of SILICON VALLEY - G.U.T.S/S.V  
6675 Clifford Drive  
Cupertino, CA 95014-4530  
(408) 253-3175

PRESIDENT: Bill Miller  
SincLink Editor: Bill Miller

GUTS/SV meets the last Wednesday of each month at:

Meetings start at 7:00pm. Bring your equipment down access ramp leading to bottom of circular building. Don't forget strips and extenssion cords.

Cupertino Library  
Community Room  
10400 Torre Avenue  
Cupertino, CA 95014

>>>>UPCOMING MEETINGS<<<<

August 31st, 1988  
September 28th, 1988  
October 26th, 1988

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